Bill Chrisman
Grain Processing Corporation
1600 Oregon Street
Mascatine, Iowa 52761

Dear Mr. Chrisman:

Re: Exempt Construction and Operation Status,
027-12885-00046

The application from Grain Processing Corporation received on October 23, 2000 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following pneumatic conveyer, to be located at 2000 Maysville Road, Washington, Indiana 47501 is classified as exempt from air pollution permit requirements:

One (1) pneumatic transport system for transferring corn germ and gluten feed from product storage to bulk loadout at a maximum rate of 180,000 pounds of product per hour. The transport system consists of a pneumatic transport line, a receiver/baghouse, and centrifugal blower. Emissions are discharged through stack FP28.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emissions rate from the pneumatic transport system shall not exceed 50.2 pounds per hour when operating at a process weight rate of 90 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

E = 55.0 P0.11 - 40 where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

(3) The baghouse for PM control shall be in operation and control emissions from the pneumatic transport system at all times the conveyor is in operation. Operation of the baghouse makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

This existing source is required to submit a Part 70 application no later than twelve months after start up (April 15, 2000). The equipment being reviewed under this permit shall be incorporated in the Part 70 application.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

ERG/AB

cc: File - Daviess County
Air Compliance - Gene Kelso
Southwest Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**Grain Processing Corporation**
Source Location:	**2000 Maysville Road, Washington, Indiana 47501**
County:	**Daviess**
SIC Code:	**2046**
Operation Permit No.:	**027-12885-00046**
Permit Reviewer:	**ERG/AB**

The Office of Air Management (OAM) has reviewed an application from Grain Processing Corporation relating to the construction and operation of the following emission units and pollution control devices:

One (1) pneumatic transport system for transferring corn germ and gluten feed from product storage to bulk loadout at a maximum rate of 180,000 pounds of product per hour. The transport system consists of a pneumatic transport line, a receiver/baghouse, and centrifugal blower. Emissions are discharged through stack FP28.

History

On October 23, 2000, Grain Processing Corporation submitted an application to the OAM requesting a construction and operating permit for a pneumatic conveyor system for corn germ and corn gluten to their existing plant. Construction of the new conveyor system began in August 2000. The plant is currently operating under CP 027-7239-00046 and is a major source of air pollutants. The plant began operating on April 15, 2000 and has not yet applied for a Part 70 operating permit.

Enforcement Issue

There are no enforcement actions pending.

Unpermitted Emissions Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

CP 027-7239-00046, issued on June 10, 1997.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the baghouse be considered as an integral part of the pneumatic conveyor:

The pneumatic conveyor system will not transfer material efficiently from the storage tanks to the rail cars and trucks without the use of the baghouse. The baghouse is, therefore, considered to be an integral part of the conveyor system.

IDEM, OAM has evaluated the justification and agreed that the baghouse will be considered an integral part of the pneumatic conveyor system. Therefore, the permitting level will be determined using the potential to emit after the baghouse. Operating conditions in the proposed permit will specify that this baghouse shall operate at all times when the pneumatic conveyor is in operation.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
FP 28	Germ/Gluten Loadout Conveyor	77.0	1.0	3650	80 -100

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 23, 2000. Additional information was received on November 15, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the increase in PTE after controls since the control equipment is considered integral to the process. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

	Potential To Emit (tons/year)*
PM	0.22
PM-10	0.11
SO_2	0
VOC	0
CO	0
NO_x	0

Justification for Modification

Construction of this emission unit is exempt from permitting requirements under 326 IAC 2-1.1-3(d)(1)(A) because the proposed construction has the potential to emit less than five (5) tons of particulate matter (PM) with an aendynamic diameter less than ten (10) micrometers (PM-10).

County Attainment Status

The source is located in Daviess County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Davies County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Daviess County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	273
PM-10	149
SO_2	39.6
VOC	82.0
CO	134
NOx	167

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

(b) These emissions are based upon the technical support documents for CP-027-7239-00046.

Proposed Modification

PTE from the proposed modifications (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit where applicable:

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Corn Germ/Gluten Loadout Conveyor	0.22	0.11	0	0	0	0	0

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has twelve months from the date of startup (April 2000) to submit a Part 70 application. The equipment being reviewed under this permit shall be incorporated in the Part 70 application.

Federal Rule Applicability

(a) This source is not subject to the requirements of New Source Performance Standard, 326 IAC 12, (40 CFR 60, Subpart DD, Standards of Performance for Grain Emissions), because the storage capacity of the grain elevator is less than 1 million U.S. bushels.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration)

Although the pneumatic conveyor will be able to handle 180,000 pounds of product per hour, the plant can make only 36,500 tons of corn gluten and 48,000 tons of corn germ per year. After loading, the product sometimes has a moisture content that is too high to meet customer requirements and must be returned to the drying ovens for reprocessing. Assuming reprocessing is performed for 50% of the product, then the maximum product that would be handled by the pneumatic conveyor is 126,750 tons per year. Consequently, the maximum potential PM and PM-10 emissions were calculated using 126,750 tons per year as the maximum throughput. The maximum potential PM and PM-10 emissions after controls calculated using the throughput of 126,750 tons per year are 0.22 tons per year and 0.11 tons per year, respectively. If the bottleneck was removed such that the pneumatic conveyor was operated at 180,000 pounds of product per hour for 8760 hours per year, the PM and PM-10 emissions after controls would be 1.37 tons per year and 0.68 tons per year, respectively. Since the potential to emit PM after controls is less than twenty-five (25) tons per year and the potential to emit PM-10 after controls is less than fifteen (15) tons per year, the provisions of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 are not applicable, provided the baghouse is in operation at all times the pneumatic conveyor is in use.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the corn germ/gluten loadout conveyor shall be limited to 50.2 pounds per hour assuming a process rate of 180,000 pound per hour.

This limit was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

Conclusion

The construction and operation of this pneumatic conveyor system shall be subject to the conditions of the attached proposed Exemption No. 027-12885-00046.

Appendix A: Emissions Calculations
Particulate Emissions From Pneumatic Conveyor System

Company Nan Grain Processing Corporation
Address City I Washington, IN 47501
Part 70 Permi 027-12885-00046
Plt ID: 00046
Reviewer: ERG/AB
Date: 11/14/2000

Process	Baghouse Efficiency (%)	Air Flow (acfm)	PM Emission Rate (lb/hr)*	PM-10 Emission Rate (lb/hr)	Maximum Product Produced (tons/year)	Maximum Product Handled (tons/yr)	Throughput for Conveyor (lb product/hr)	Maximum PTE	
								PM Emissions (tons/yr)	PM-10 Emissions (tons/yr)
Pneumatic Conveyor	99.0	3,650.00	31.3	15.7	84,500	126,750.00	180,000	22.05	11.06

Methodology

* Emission rates determined using manufacturers specifications for the baghouse.

TSP Emissions from baghouse (lb/hr) = 3650 acfm * 60 minutes/hour * 0.01 gr/cf * 1lb/7000 gr = 0.313 lb/hr

PM-10 Emissions from baghouse (lb/hr) = 3650 acfm * 60 minutes/hour * 0.005 gr/cf * 1 lb/7000 gr = 0.157 lb/hr

PM Emission Rate = 0.313 lb/hr * 1/1-0.99) = 31.3 lb/hr

PM-10 Emission Rate = 0.157 lb/hr * 1/(1-0.99) = 15.7 lb/hr

Maximum PTE (tons/yr) = Maximum Product Produced (tons/yr) * 1.5 * 2000 lbs/ton * Emission Rate (lbs/hr) / Max. Throughput (lbs/hr) * 1 ton/2000 lbs

Note: Although the pneumatic conveyor will be able to handle 180,000 lbs of product per hour, the plant can make only 36,500 tons of corn gluten per year and 48,000 tons of corn germ per year. After loading, the product sometimes has a moisture content that is too high to meet customer requirements. and has to be returned to the drying ovens. Assumming reprocessing occurs for 50% of the product, the maximum amount of product that would be handled by this system in any given year is 84,500 tons * 1.5 or 126,750 tons. Corn gluten and corn germ are the only products that will be loaded using this pneumatic conveyor.